

REMARKS/ARGUMENTS

Applicant has carefully reviewed and considered the Office Action mailed on December 16, 2004, and the references cited therewith.

Claims 11, 23, and 26 are amended, claims 10, 12, 25, 27, and 30-34 are canceled; as a result, claims 1-9, 11, 13-24, 26, 28, 29, and 35-42 are now pending in this application.

§112 Rejection of the Claims

Claim 10 was rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claim 10 has been canceled and accordingly Applicant respectfully requests reconsideration and withdrawal of the rejection.

§102 Rejection of the Claims

Claims 1, 2, 5-9, 11-13, 15-17, 19-24, 26, 27, 29-32, 34-36, and 38-42 were rejected under 35 U.S.C. §102(b) as being anticipated by Do (U.S. Patent No. 5,957,560). The Do reference appears to teach a “mask between the fluorescent screen 24 and the optical system. The mask is preferably made of materials that are resistant to ultraviolet rays and absorb visible rays (e.g., steel or metal, or color plastic material), and is formed in a predetermined pattern having holes for the passage of light.” (Col. 5, Lines 62-67). Thus, the Do reference appears to teach material that absorbs visible and non-visible wavelengths of light, and not material that absorbs some wavelengths of light and reflects other wavelengths of light.

In contrast, independent claim 1 includes:

A projection screen comprising a substrate having thereon: one or more fluorescent materials that: emit visible light with an incidence of one or more ranges of wavelengths of light; and absorb visible light in at least one other range of wavelengths that is not included in the one or more ranges

Amended independent claim 11 includes:

one or more fluorescent materials that: emit visible light with an incidence of one or more ranges of UV wavelengths of light; and one or more absorption materials that absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range

Independent claim 16 includes:

a projection screen for receiving the projected image that is configured to: emit visible light with the incidence of the one or more ranges of wavelengths of light; and absorb visible wavelengths of light in at least one other range that is not included in the one or more ranges

Amended independent claim 26 includes:

a projection screen for receiving the projection image that is configured to emit visible light with the incidence of the one or more ranges of wavelengths of light; and one or more absorption materials that absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range

Independent claim 35 includes:

A method comprising: forming over a substrate one or more fluorescent materials that emit visible light with an incidence of one or more ranges of wavelengths of light; and forming over the substrate one or more absorption materials that absorb visible light in at least one other range of wavelengths that is not included in the one or more ranges

Independent claim 40 includes:

means for projecting an image composed of one or more ranges of wavelengths of light; and means for displaying the projected image that is configured to: emit visible light with an incidence of the one or more ranges of wavelengths of light; and absorb visible wavelengths of light in at least one other range that is not included in the one or more ranges

The Do reference does not appear to teach a projection screen comprising a substrate, having thereon, one or more fluorescent materials that: emit visible light with an incidence of one or more ranges of wavelengths of light and absorb visible light in at least one other range of wavelengths that is not included in the one or more ranges, as recited in independent claim 1. Nor does the Do reference appear to teach one or more fluorescent materials that: emit visible light with an incidence of one or more ranges of UV wavelengths of light and one or more absorption materials that absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range, as recited in amended independent claim 11.

The Do reference also does not appear to teach a projection screen for receiving the projected image that is configured to: emit visible light with the incidence of the one or more ranges of wavelengths of light and absorb visible wavelengths of light in at least one other range that is not included in the one or more ranges, as recited in independent claim 16. Nor does the Do reference appear to teach a projection screen for receiving the projection image that is configured to emit visible light with the incidence of the one or more ranges of wavelengths of light and one or more absorption materials that absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range, as recited in amended independent claim 26.

Further, the Do reference does not appear to teach a method comprising: forming over a substrate one or more fluorescent materials that emit visible light with an incidence of one or more ranges of wavelengths of light and forming over the substrate one or more absorption materials that absorb visible light in at least one other range of wavelengths that is not included in the one or more ranges, as recited in independent claim 35. Nor does the Do reference appear to teach means for projecting an image composed of one or more ranges of wavelengths of light and means for displaying the projected image that is configured to: emit visible light with an incidence of the one or more ranges of wavelengths of light and absorb visible wavelengths of light in at least one other range that is not included in the one or more ranges, as recited in independent claim 40.

Thus, the Do reference does not teach each and every element of independent claims 1, 11, 16, 26, 35, and 40 and, therefore, Applicant respectfully requests

reconsideration and withdrawal of the §102 rejection for independent claims 1, 11, 16, 26, 35, and 40, and the claims that depend therefrom.

With regard to claim 23, the Do reference appears to teach a fluorescent screen 24 with pixels which displays an image. (Col. 5, Lines 45-57).

In contrast, amended independent claim 23 includes:

an image forming device that forms an image composed of the one or more ranges of UV wavelengths of light such that with the incidence of the image on a projection screen that includes one or more fluorescent materials, the projection screen emits visible light such that the image is viewable by the human eye; wherein the image that is formed by the projector is directional and the emitted visible light has a Lambertian distribution.

The Do reference does not appear to teach an image forming device that forms an image composed of the one or more ranges of UV wavelengths of light such that with the incidence of the image on a projection screen that includes one or more fluorescent materials, the projection screen emits visible light such that the image is viewable by the human eye wherein the image that is formed by the projector is directional and the emitted visible light has a Lambertian distribution, as recited in amended independent claim 23. Thus, the Do reference does not teach each and every element of amended independent claim 23 and, therefore, Applicant respectfully requests reconsideration and withdrawal of the §102 rejection for independent claim 23, and the claims that depend therefrom.

Claims 1-3, 5-9, 11-13, 15-17, 19-24, 26-27, 29-32, 34-36, and 38-42 are rejected under 35 U.S.C. §102(b) as being anticipated by Friesem (U.S. Patent No. 3,881,800). The Friesem reference appears to teach fluorescent dyes printed on the face of a substrate in a regular array of alternating red, green, and blue segments, to emit the corresponding wavelength of light. (Col. 2, Lines 3-6). This is printed on a template 10 blackened with a dye to render the template 10 non-transmissive to light. (Col. 1, Line 67 – Col. 2, Line 2). Thus, the Friesem reference appears to teach fluorescent dyes that emit a wavelength of light corresponding to the color of the dye (red, green, or blue), and another dye for blackening the template.

The Friesem reference does not appear to teach a projection screen comprising a substrate, having thereon, one or more fluorescent materials that: emit

visible light with an incidence of one or more ranges of wavelengths of light and absorb visible light in at least one other range of wavelengths that is not included in the one or more ranges, as recited in independent claim 1. Nor does the Friesem reference appear to teach one or more fluorescent materials that: emit visible light with an incidence of one or more ranges of UV wavelengths of light and one or more absorption materials that absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range, as recited in amended independent claim 11.

The Friesem reference also does not appear to teach a projection screen for receiving the projected image that is configured to: emit visible light with the incidence of the one or more ranges of wavelengths of light and absorb visible wavelengths of light in at least one other range that is not included in the one or more ranges, as recited in independent claim 16. Nor does the Friesem reference appear to teach a projection screen for receiving the projection image that is configured to emit visible light with the incidence of the one or more ranges of wavelengths of light; and one or more absorption materials that absorb wavelengths of light that are not included in the one or more ranges and are not included in the at least one other range, as recited in amended independent claim 26.

Further, the Friesem reference does not appear to teach a method comprising: forming over a substrate one or more fluorescent materials that emit visible light with an incidence of one or more ranges of wavelengths of light and forming over the substrate one or more absorption materials that absorb visible light in at least one other range of wavelengths that is not included in the one or more ranges, as recited in independent claim 35. Nor does the Friesem reference appear to teach means for projecting an image composed of one or more ranges of wavelengths of light; and means for displaying the projected image that is configured to: emit visible light with an incidence of the one or more ranges of wavelengths of light; and absorb visible wavelengths of light in at least one other range that is not included in the one or more ranges, as recited in independent claim 40.

Thus, the Friesem reference does not teach each and every element of independent claims 1, 11, 16, 26, 35, and 40 and, therefore, Applicant respectfully requests reconsideration and withdrawal of the §102 rejection for independent claims 1, 11, 16, 26, 35, and 40, and the claims that depend therefrom.

With respect to claim 23, the Friesem reference appears to teach fluorescent dyes printed on the face of a substrate in a regular array of alternating red, green and blue segments, to emit the corresponding wave length of light: (Col. 2, Lines 3-6). The Friesem reference does not appear to teach an image forming device that forms an image composed of the one or more ranges of UV wavelengths of light such that with the incidence of the image on a projection screen that includes one or more fluorescent materials, the projection screen emits visible light such that the image is viewable by the human eye, wherein the image that is formed by the projector is directional and the emitted visible light has a Lambertian distribution, as recited in amended independent claim 23.

Thus, the Friesem reference does not teach each and every element of amended independent claim 23 and, therefore, Applicant respectfully requests reconsideration and withdrawal of the §102 rejection for independent claim 23, and the claims that depend therefrom.

§103 Rejection of the Claims

Claims 4, 14, 18, 25, 28, 33, and 37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Do (U.S. Patent No. 5,957,560) in view of Spector (U.S. Patent No. 4,323,301) or in view of Freese (U.S. Patent No. 6,816,306). Dependent claim 25 has been canceled, but the subject matter contained therein has been added to independent claim 23.

The Do reference appears to teach a fluorescent screen 24 with pixels which displays an image. (Col. 5, Lines 45-57). The Spector reference states “A perfect or Lambertian diffuser is one that has the same apparent brightness from any angle” in the “Background of the Invention” section of the reference (Col. 1, Lines 17-19). However, the Spector reference does not teach a Lambertian diffuser, nor is the Spector reference directed at the field of fluorescent screens.

The Freese reference appears to teach varying the lenses as “[s]tructural variations to achieve improvements,” such as a Lambertian screen effect. (Col. 8, Lines 12-17). But the Freese reference does not teach achieving a Lambertian effect while employing fluorescent screens, nor is the Freese reference directed at the field of fluorescent screens.

Amended independent claim 23 includes:

an image forming device that forms an image composed of the one or more ranges of UV wavelengths of light such that with the incidence of the image on a projection screen that includes one or more fluorescent materials, the projection screen emits visible light such that the image is viewable by the human eye; wherein the image that is formed by the projector is directional and the emitted visible light has a Lambertian distribution.

The Do reference does not appear to teach an image forming device that forms an image composed of the one or more ranges of UV wavelengths of light such that with the incidence of the image on a projection screen that includes one or more fluorescent materials, the projection screen emits visible light such that the image is viewable by the human eye, wherein the image that is formed by the projector is directional and the emitted visible light has a Lambertian distribution, as recited in amended independent claim 23.

Applicant is unable to find such a teaching in the Do reference, even in combination with the Specter or the Freese reference. As such, each and every element and limitation is not provided in the references, either independently or in combination, to support a §103 rejection of claim 23. Accordingly, Applicant respectfully requests the reconsideration and withdrawal of the rejection of claim 23, and the claims that depend therefrom, upon this basis.

With respect to the rejection of claims 4, 14, 18, 28, 33, and 37, these claims depend from one of the pending independent claims discussed above and the Specter and Freese references do not cure the deficiencies of the Do reference. Accordingly, these dependent claims are deemed allowable based upon the arguments presented above.

Claim 10 was rejected under 35 U.S.C. §103(a) as being unpatentable over Do (U.S. Patent No. 5,957,560). Claim 10 was also rejected under 35 U.S.C. §103(a) as being unpatentable over Friesem (U.S. Patent No. 3,881,800). Claim 10 has been canceled and accordingly, Applicant respectfully requests reconsideration and withdrawal of these rejections.

Claims 4, 14, 18, 25, 28, 33, and 37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Friesem (U.S. Patent No. 3,881,800) in view of Specter (U.S. Patent No. 4,323,301) or in view of Freese (U.S. Patent No. 6,816,306). Dependent claim 25 has been canceled, but the subject matter contained therein has

been added to independent claim 23. The Friesem reference appears to teach the use of fluorescent dyes.

The Friesem reference does not appear to teach a light source that outputs one or more ranges of UV wavelengths of light; and an image forming device that forms an image composed of the one or more ranges of UV wavelengths of light such that with the incidence of the image on a projection screen that includes one or more fluorescent materials, the projection screen emits visible light such that the image is viewable by the human eye; wherein the image that is formed by the projector is directional and the emitted visible light has a Lambertian distribution, as recited in amended independent claim 23.

Nothing from the Spector or Freese references cures this deficiency. As such, each and every element and limitation is not provided in the references, either independently or in combination. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 23.

With respect to the rejection of claims 4, 14, 18, 28, 33, and 37, these claims depend from one of the pending independent claims discussed above and the Spector and Freese references do not cure the deficiencies of the Friesem reference. Accordingly, these dependent claims are deemed allowable based upon the arguments presented above.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (360) 212-8052 to facilitate prosecution of this matter.

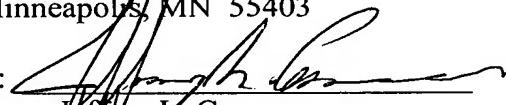
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